



# **TUVALU ELECTRICITY CORPORATION**



# **CORPORATE PLAN 2021 - 2023**

## FOGAFALE AND OUTSTATIONS

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## 1. EXECUTIVE SUMMARY

### 1.1 STRATEGIC ISSUES.

The Tuvalu Electricity Corporation, formerly called the Tuvalu Electricity Authority (TEA) was corporatized in December 20<sup>th</sup>, 1991 as part of the Government of Tuvalu's public sector reform strategies to provide and ensure efficiency in the generation and distribution of electricity in Tuvalu.

The prime function of the Corporation is to carry out its general business of supplying electricity to either for sale or otherwise. In carrying out its function the Corporation is also required by law to act, not only in the best interest of the company, but also the nation in accordance with instructions as may be given from time to time by the Hon. Minister.

TEC has the sole and exclusive right to supply electricity to an area declared by the Hon. Minister to be an electricity supply area.

The primary challenge in the next three year's is to radically develop and operate the Corporation, and at the same time, comply with Government reforms in order to provide a high quality and reliable supply at a reasonable tariff price to be self-sufficient and financially viable.

In alignment with this challenge, our **Vision** is:

***"Powering Tuvalu with Renewable Energy"***

And our **Mission** in the next three years is:

***"To profitably provide clean, reliable, affordable, and safe electricity to the people of Tuvalu. We aim to provide all energy through renewable resources by 2025".***

The Corporate Plan of 2021~~19~~-2023~~21~~ establishes a framework which is customer-focused and output-oriented.

## 1.2 MAJOR OBJECTIVES

The major objectives have been formulated according to the key areas identified. This will ensure that a more strategic and focused approach will be implemented in the 2021~~19~~-2024~~21~~ period.

The Corporation's main objectives include:

### 1. Service Delivery

- i. To enhance the quality, reliability, efficiency and cost effectiveness of service related to the Corporation's infrastructure and business in order to achieve optimum utilization and benefits from its resources.

### 2. Research and Development

- i. To improve overall business efficiency by harnessing of appropriate modern technology
- ii. Commitment to invest in research and development programs for renewable energy and energy efficiency in order to reduce dependency on imported fossil fuel

### 3. Financial Performance

- i. To enhance the financial performance of the Corporation through efficient revenue collection, effective cost control measures, and overall good financial management practice.
- ii. To assess the possibility of outsourcing non-core functions currently performed by the Corporation
- iii. To provide reliable, pertinent and timely financial management information to Management and the Board on a routine regular basis
- iv. To review CSO to ensure it is cost-effective and profitable, where possible

### 4. Customer Service

- i. To ensure quality service is provided effectively and efficiently to all customers.
- ii. To improve Public perception of TEC
- iii. To maximize communications resources in order to improve internal communications

### 5. Staff Training and Development

To facilitate effective utilization and professional development of staff through adequate training, effective recruitment and selection process.

### 6. Development of Legislations, Regulations, Policies and Business Procedures

To develop, review and implement policies and procedures in alignment with Government and Corporation's legislations in order to integrate, thus enhance individual and organizational performance.

### 7. Corporate Plan Performance Evaluation

To ensure success and achievement of the Corporation planned objectives.



### 1.3 STRATEGIES

Given the overall analysis, we have identified the most appropriate strategies for the Corporation, which have been incorporated into the matrix of activities to successfully address the strategic issues, thus ensure accountability and transparency for reporting purposes.

#### **01. Service Delivery**

- S1. To ensure sufficient generation capacity at all times.
- S2. Carry out effective maintenance programs for generators both diesel and RE and power equipment, and prioritize quality in selection of generation equipment.
- S3. Ensure that adequate repair and maintenance programs for Distribution are in place and strictly followed.

#### **02. Research and Development**

- S4. To implement proven renewable energy such as solar-and wind-power
- S5. To research, monitor and further develop capacity to appropriately utilize other proven renewable energy
- S6. To research, develop and implemented ways to reduce Power Consumption.
- S7. To research, develop and implemented ways of loss reduction programs
- S8 To increase RE coverage by 36% by the Planned Period

#### **03. Enhance Financial Performance and Reporting**

- S9. To reduce overdraft facility at the NBT
- S10. To maintain billing system in an effective way
- S11. To maintain good internal systematic control measures
- S12 Enhance timely, financial management reporting system

#### **04. Customer Service and Service Delivery**

- S13 To designate a dedicated customer service desk for enquiries and complaints.

#### **05. Staff Training and Development**

- S14 To develop, implement and maintain staff training.
- S15 Ensure that specialized and professional staff are recruited, appropriately trained and retained
- S16 In-country training of Outer Islands and Fogafale Staff on renewable energy Systems.

#### **06. Development of Legislations, Regulations, Policies and Business Strategies**

- S17 Review existing policies and procedures and formulate new policies and procedures where appropriate.

#### **07. Corporate Plan Performance Evaluation**

- S18 Assess and evaluate the progress of the Corporate Plan against Key Performance Indicators (KPI) on a quarterly and annual basis.

## 1.4 FINANCIAL OBJECTIVES

The financial objective of the main plan is for the Corporation to derive a 2% profit during the planned period.

In order to achieve the objectives, the Corporation needs to execute the following:

- Installation of prepayment meters
- Negotiate for lump sum payment from institutions that have been approved by the Government not to install prepayment meters
- Implement strategies to reduce the consumption of diesel oil such as Demand Side Management and power conservation etc.
- Maintain good internal systematic control measures.
- Continue with the development of proven renewable energy and energy efficiency to reduce diesel consumption.

## 1.5 DEVELOPMENTS PROJECTS

The major development planned or anticipated for the planned period 2021-2024 are as follows:

- Replacing of Fence at around TEC's Funafuti compound (2022)
- Construction of toilet facilities for Nanumea, Nanumaga, Niutao and Vaitupu stations (2021)
- Construction of outstation drum storage (2021)
- ~~Installation of 2xraditors at Fogafale station (2019)~~
- Procurement and Installation of pre-payment meters (2021/2022)
- Major overhaul of 60,000hrs for Fogafale gensets (2021)
- ~~Rewinding works for Generator #No 7 (2019)~~
- Continue replacement of most deteriorated service pillars (2021)
- Construction of substation shelters for substation #No 5, 7, 8, 8A & 8B(2021/2022)
- Procure and installation of HV switchgear and transformer for substation No 5 (2021/2022)
- Procure and installation of HV switchgear for substation No 9 (2021)
- Procure and installation of HV switchgear and transformer for substation No 8B (2021)
- Replacement of TEC main office roof (2021)
- Additional solar PV capacity of 700kWp and 1MW/MWh storage capacity for Fogafale station (World Bank Funded Project 2021/2022)
- Increase solar PV capacity to >90% for nukulaelae, nukufetsu nui and additional 500kW solar PV capacity and 2MW/2MWh storage capacity for Fogafale (ADB Funded Project 2021/2022)
- Installation of HF radios for all stations (WB Funded Project 2021)
- Additional installation of window tinting for the Government main office building (WB Funded Project 2021)
- Installation of Solar Home Standalone (SHS) System for Funaota, Nukufetau (India UN Development Fund Project 2021)
- Tuvalu Photovoltaic Electricity Network Integration Project (TPENIP) – Phase II for Motufoua School (Italy Funded Project 2021)
- GEF – Pilot Floating Solar PV Demo Plant (2021)
- GEF-Off-Grid Box – desalination demo plant with solar/wind (2021)
- GEF-Demand Management/Response System (2021)

## 2. THE MANDATE

The prime function of the corporation has been altered from carrying out its general business of supplying electricity for sale or otherwise and derives a profit, to provide a Community Service Obligation (CSO).

In carrying out its function the Corporation is also required by the act to act in the national interest in accordance with instructions given by the line Minister's and Board of Director's.

TEC has the sole and exclusive right to supply electricity to an area declared by the Minister to be an electricity supply area.

## 3. ENTERPRISE PROFILE

### 3.1 HISTORY

The Tuvalu Electricity Corporation was incorporated on 20 December 1991 under the Electricity Act 1991. Subject to this Act, the Tuvalu Electricity Corporation is an autonomous government-owned corporation and at that time its supply area was Fogafale, Amatuku and Motufoua Secondary School. Prior to 1991, a division of the Public Works Department was given the responsibility for power sector operations.

The Corporation is endowed with the necessary powers to carry out its functions as the entity responsible for the generation, distribution and selling of electricity in Tuvalu.

In December 1999, the Tuvalu Electricity Corporation supply area was extended to all outer islands of Tuvalu, except Niulakita, with diesel based generation and 415/240volts low voltage distribution network

In June 2017, the project of Standalone Home Solar (SHS) System at Niulakita Island and Funafala Islet was commissioned. The project is to provide all the households with 24/7 lighting system and a cooling storage facility to drive economic activities.

From its simple beginning in December 1991, 30 years ago, in supplying electricity exclusively to Fogafale, the seat of Government, amidst the many challenges and constraints, the Tuvalu Electricity Corporation now provides power 24/7 to all the population of Tuvalu with about 20% share of renewable energy mainly by solar PV technology at the end of 2019.

TEC is committed to introducing and implementing coherent actions aimed at improving productivity, quality management practices and service and ultimately, reducing costs.

### 3.2 ORGANISATION STRUCTURE

The current organizational structure, consisting of 47 employees reduced from 73 employees in 2007, excluding Board Directors, needs to be reviewed in order for the Corporation to successfully achieve its planned objectives, vision and mission within the next three years. These changes should take into consideration the following new challenges and demands arising from:

- (i) The introduction of Corporate Plans to all Government Public Enterprises (PEs);
- (ii) The introduction of Performance Budgeting by Government;
- (iii) The need to restructure the Corporation so that Human Resource is effectively utilized, and the Vision and Mission are achieved in the most efficient and cost effective manner;
- (iv) The need for further staff development in order to maintain a multi-skilled workforce;
- (v) The changes in work practices with improved systems and procedures and;
- (vi) Outsourcing of suitable activities to the private sectors.

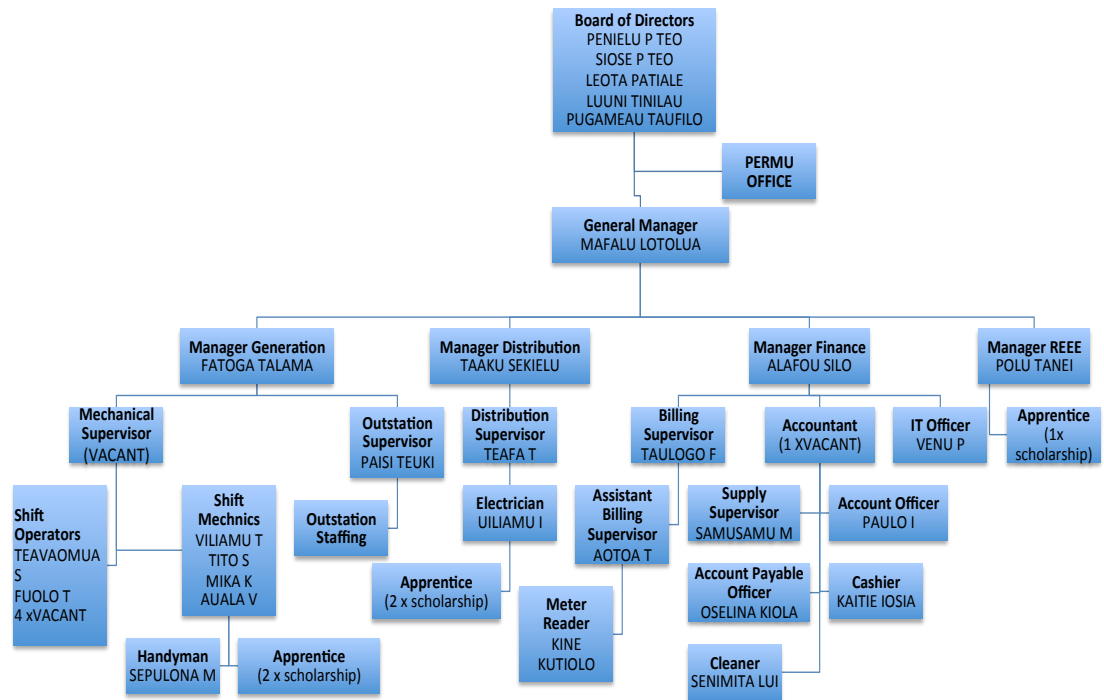
## FOGAFALE STATION

## ORGANISATION STRUCTURE

### TEC Organization Structure 2019

**Note**

- i. Salary scale do not necessarily correspond to relative position on chart
- ii. Total No of Staff
  - Foga fale - 24
  - Outstations - 16
- iii. Vacant Position - 2

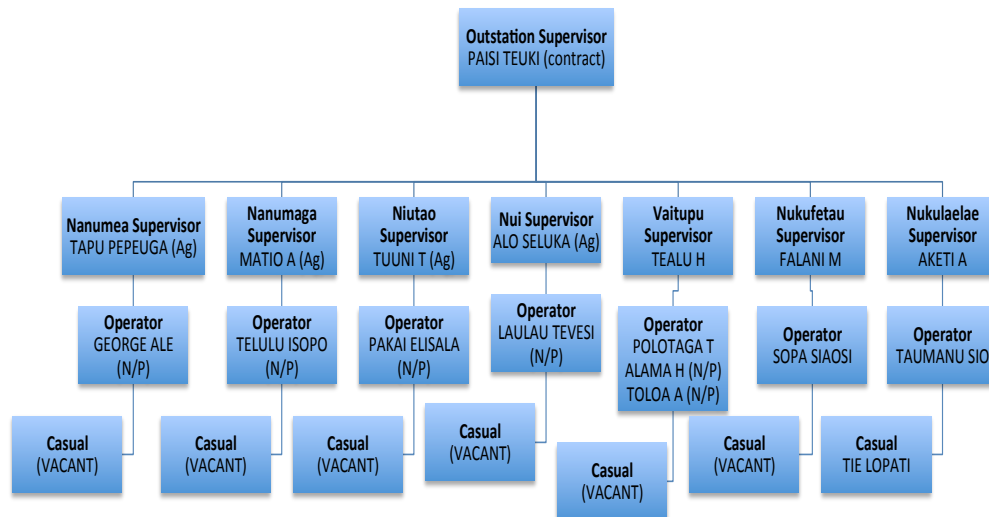




## TEC Organization Structure 2019

### Note

- i. Contract – Contract Officer
- ii. N/P – Not Permanent
- iii. Casual – Relieving Staff
- iv. No of Staff - 16



## FINANCIAL STATUS

The Corporation's current financial position is heavily dependent on its overdraft (OD) facility at the National Bank of Tuvalu and guaranteed by its capital items such as the Power Stations and its auxiliaries, Network Transformers and Cables.

In the past years the Government usually provides fuel subsidy to the TEC and under the newly approved Public Enterprise Act 2009, the Government financial assistance to TEC now called Community Service Obligation (CSO). This is to cover services provided by the Utility that are not profitable.

The existing tariff was approved by Cabinet In October 2007. The tariff structure consists of two major components, the base tariff and the fuel tariff. The base tariff is meant to review on a yearly basis and the fuel tariff on a quarterly basis depending on the market fuel price during the period. This is to shield the Corporation from sudden swing in fuel prices.

In this Cabinet meeting, the Cabinet did not approve to make any further changes to the newly structured tariff and was unanimously agreed for Government to meet the difference between the market fuel prices and the tariff fuel capped price of AUD\$1.29cents. Unfortunately, since the imposition of the new tariff structure, Government has not been able to meet the variations in fuel price and this has caused the deterioration in the financial performance of the Corporation.

Furthermore, for TEC to be financially sustainable, prepayment meters supposed to be rolled out around 3<sup>rd</sup> quarter of 2020 and because of the COVID-19 the installation will be delayed until borders are open. The installations would greatly minimize bad debts and improve TEC cash flow position. Management envisage that there will be a reduction in demand by around 2% since consumers will pay up front for the use of electricity. This is also a way of educating the consumers to use electricity more wisely. On the other hand revenue would also be reduced because of the reduction in demand and will result in more fuel savings.

## 4 STRATEGIC ISSUES FOR THE PLANNING PERIOD

### 4.1 ASSESSMENT OF INTERNAL ENVIRONMENT

The revised **Strengths** of the Corporation, together with strategies to maximize the strengths, are as follows:

| No | Strength  | Strategies to maximize strengths  |
|----|---|---|
| 1  | Sole provider of electricity in Tuvalu                      | <ul style="list-style-type: none"> <li>○ Ensure continuous quality and reliability at all times</li> </ul>  |
| 2  | Government owned entity                                     | <ul style="list-style-type: none"> <li>○ Lobby for Government support to secure external funding</li> </ul>   |
| 3  | TEC has its own budget                                      | <ul style="list-style-type: none"> <li>○ Have cost effective control in place</li> </ul>  |
| 4  | Localized of key managerial key position                    | <ul style="list-style-type: none"> <li>○ Effective performance measure</li> </ul>   |
| 5  | Availability of solar PV and wind hybrid generation         | <ul style="list-style-type: none"> <li>○ Invest in human capacity</li> <li>○ Effective maintenance and monitoring programs in place</li> <li>○ Efficient utilization of resources by maximizing solar/wind usage to its full capacity</li> </ul>  |
| 6  | Positive relationship with donor organizations              | <ul style="list-style-type: none"> <li>○ Continuous liaison with donor organizations, through promoting and maintaining good public relation skills</li> </ul>  |
| 7  | Responsiveness to cultural issues and consumer demands.     | <ul style="list-style-type: none"> <li>○ Effective consultation and negotiations with village communities.</li> <li>○ Encourage public relations.</li> </ul>  |
| 8  | Strong customer service focus                               | <ul style="list-style-type: none"> <li>○ Improvement of fault service</li> <li>○ Increase customer awareness programs</li> </ul>  |
| 9  | Reliable security and safety measures (formerly a weakness) | <ul style="list-style-type: none"> <li>○ Improve monitoring and reporting of property damage and personal injury accidents.</li> </ul>  |
| 10 | Positive Enhancement of TEC cultural environment.           | <ul style="list-style-type: none"> <li>○ Encourage team building capacity via regular employee meetings.</li> <li>○ Encourage interactive participation from all employees.</li> <li>○ Promote recreational and informal social activities.</li> <li>○ Encourage open and supportive interdepartmental communication</li> </ul> |

Some of the **Weaknesses** deemed a high priority and need urgent attention are as follows:

| No | Weaknesses   | Strategies to maximize Weaknesses  |
|----|--|--|
| 1  | Power Outages  | <ul style="list-style-type: none"> <li>○ Timely maintenance of generators and PV /batteries equipment</li> <li>○ Improve proactive maintenance program</li> <li>○ Upgrade Operator skills and knowledge</li> <li>○ Provide on-the-job training</li> <li>○ Maintenance and Replacement of service pillars</li> <li>○ Upgrade of all substations on Fogafale</li> </ul>                            |
| 2  | System Losses  | <ul style="list-style-type: none"> <li>○ Continue system loss survey in order to determine unavoidable system losses</li> <li>○ Identify contributing factors to system losses eg. Meter tempering, defective metering, unread meters etc</li> <li>○ Possibility of Installation of Demand meters in substations</li> <li>○ Checking of meter reading before entering into the system</li> </ul> |
| 3  | Generation Losses  | <ul style="list-style-type: none"> <li>○ Identify ways to improve generator efficiency e.g. share from PV and generator share</li> </ul>   |
| 4  | Inappropriate procurement process                        | <ul style="list-style-type: none"> <li>○ Review and upgrade existing procurement policies and procedures in order to ensure personnel compliances.</li> </ul>  |
| 5  | Debt Recovery  | <ul style="list-style-type: none"> <li>○ Utilization of pre-payment meters</li> <li>○ Established debt recovery committee</li> <li>○ Customers to agree with his/her arrears</li> <li>○ Board to approve the Prepayment Policy</li> <li>○ Continuous timely monitoring of arrears</li> </ul>   |
| 6  | Lack of training for specialized skilled staff           | <ul style="list-style-type: none"> <li>○ Implement training programs for engine overhaul and testing, ac alternator servicing, meter testing</li> </ul>  |
| 7  | Customer Complaints/grievances (formerly weak)           | <ul style="list-style-type: none"> <li>○ Identify specific areas of concerns through obtaining customers feedback</li> <li>○ Conduct regular customer service workshops for frontline employees in order to respond to customer enquiries promptly.</li> <li>○ Draft customer services policies and procedures</li> </ul>  |
| 8  | Absence of Disaster Recovery Plan for information backup | <ul style="list-style-type: none"> <li>○ Establish a remote location for information backup</li> </ul>   |

## 4.2 ANALYSIS OF EXTERNAL BUSINESS ENVIRONMENT

Although TEC is operating as a prime producer of electricity, the public's expectation to produce cheap and affordable electricity presents an enormous challenge at all levels of the Corporation. The increasing demand for high performances in service delivery and effective and efficient operation means that it is a MUST for the Corporation to continually assess itself, with particular emphasis on the impact of internal and external issues and factors on its performance.

As a consequent of the rapidly changing environments (i.e. socio-political, economical, technological), which may impose both favorable and /or adverse impacts on the execution of the Corporate Plan, the Corporation closely examined strategies to embrace all opportunities for further development.

The external environment factors that will have influenced the Corporate Plan for the Corporation include:

| No | Opportunities   | Strategies to take Advantage of Opportunities   |
|----|---|---|
| 1  | Use of pre-payment meters   | ○ Install prepayment meters for all customers except those customers that have been approved by the TEC Board/Cabinet. Installation of prepayment should all be done around 3 <sup>rd</sup> quarter 2019. |
| 2  | Use of KVARHr and Peak Demand Metering  | ○ Investigate and apply where appropriate to optimize generation capacity and minimize the system losses.<br>○ Develop relevant regulations and policies to enable use of appropriate technology          |
| 3  | Continue of wind monitoring potential in all islands of Tuvalu                                  | ○ Initiate resource assessment and safely stored data for further analysis.   |
| 4  | Access to aid donor sponsorship for training and continuous staff development                   | ○ Seek sponsorship from possible donor agencies   |
| 5  | Utilisation of all available medium to increase public awareness of TEC services and operation. | ○ Upgrade public relation and medium tools and techniques.<br>○ Ensure proper technical training is made available to all personnel.  |
| 6. | Private entities to generate electricity (TEC Customers)  | ○ Review existing TEC Legislation to provide clear guidelines to accommodate Independent Power Producer (IPP) which generates beneficial opportunities.   |
| 7. | Access to aid donor sponsorship for technical assistance and development projects               | ○ Continue to strengthen and promote good relationships with existing donors to secure funding  |



| No | Threats                                   | Strategies to Protect Threats   |
|----|---|---|
| 1  | Unstable oil prices                       | ○ Continue implementing of proven renewable energy such as solar PV and wind.   |
| 2  | Fuel Supply Monopoly                      | ○ Investigate the possibility of ordering fuel ISO-tainers from NZ, utilizing the monthly shipment from NZ.                   |
| 3  | Migration                                 | ○ Continue training of staff  |
| 4  | Disgruntled island claiming compensation. | ○ Promote public awareness about policies and legislations through improved public relation and awareness programs            |
|    |   | ○ Identify ponds for installation of PV's   |
|    |   | ○ Identify land boundaries of current TEC owned lands and properties.   |
| 5  | Meter tampering.                          | ○ Enforce TEC Act to take Customer to court when found tampering.   |
|    |   | ○ Put in place aggressive meter checking program.   |
| 6  | Foreign exchange rate fluctuation.        | ○ Implement mechanism to reduce the impacts of significant increases in exchange rates such as reliance on imported products. |
| 7. | Loss of information and database          | ○ Establish and secure a reliable remote location for information backup  |
| 8  | High level of debts                       | ○ Increase utilization of prepayment meters   |

#### 4.3 ASSESSMENT OF RESOURCES

Given the assessment as in 4.2 of the current situation, the Corporation will focus its activities in the next three years to ensure that the Mission given in this Plan becomes a reality through the implementation of seven (7) key strategic issues:

- (1) Service Delivery
- (2) Research and Development
- (3) Enhance Financial Performance and Reporting
- (4) Customer Service and Service Delivery
- (5) Development of Legislations, Policies and Business Strategies
- (6) Staff Training and Development
- (7) Corporate Plan Performance Evaluation – A quarterly assessment of the Management performance against the Corporate planned objectives.

The above key areas have been developed and identified as they highlight the activities the Corporation will need to focus on from the period of January 2019 to December 2021.